

SKU:SEN0381 (<https://www.dfrobot.com/product-2130.html>)

Introduction
Specification
Board Overview
Dimensional Drawing
Tutorial
FAQ
More Documents



(<https://www.dfrobot.com/product-2130.html>)

Introduction

This is a digital IR Proximity Sensor with on-board button and indicator. It provides adjustable detection distance within 0 to 200cm and comes with real-time status feedback. Press down the button, then the indicator starts to flash, this time the detection distance can be adjusted. The sensor will auto detect and save the distance between it and obstacle ahead. In addition, this sensor is equipped with 3PIN data cable (digital signal output) that can be directly plugged into Arduino IO expansion board. The product can be widely used in applications like smart home, house security, intelligent detection and control, robot obstacle, and so on.

The sensor is based on the principle of diffuse reflection of IR light on objects. When a person or object enters the sensing range in front of the sensor, the sensor immediately determines that there is induction, so as to control the output signal; after the person or object leaves the sensing range, it will judge that there is no induction, and stop signal output, by which intelligent control can be achieved.

Specification

- Power Supply: 5V

Introduction

Specification

Board Overview

Dimensional Drawing

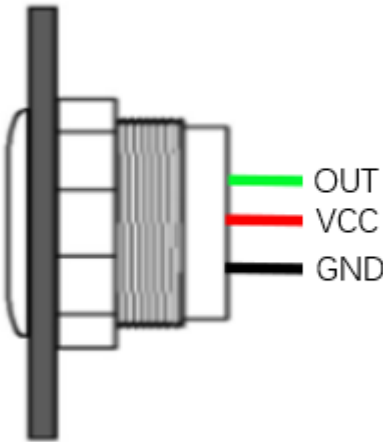
Tutorial

FAQ

More Documents

- Detection Distance: 0~200cm(adjustable)
- Output: switch quantity(active-high)
- Detection Angle: 30-40° coning angle
- Detection Mode: active
- Operating Temperature: -10~60°C
- Storage Temperature: -20°~70°C
- Waterproof Performance: IP67

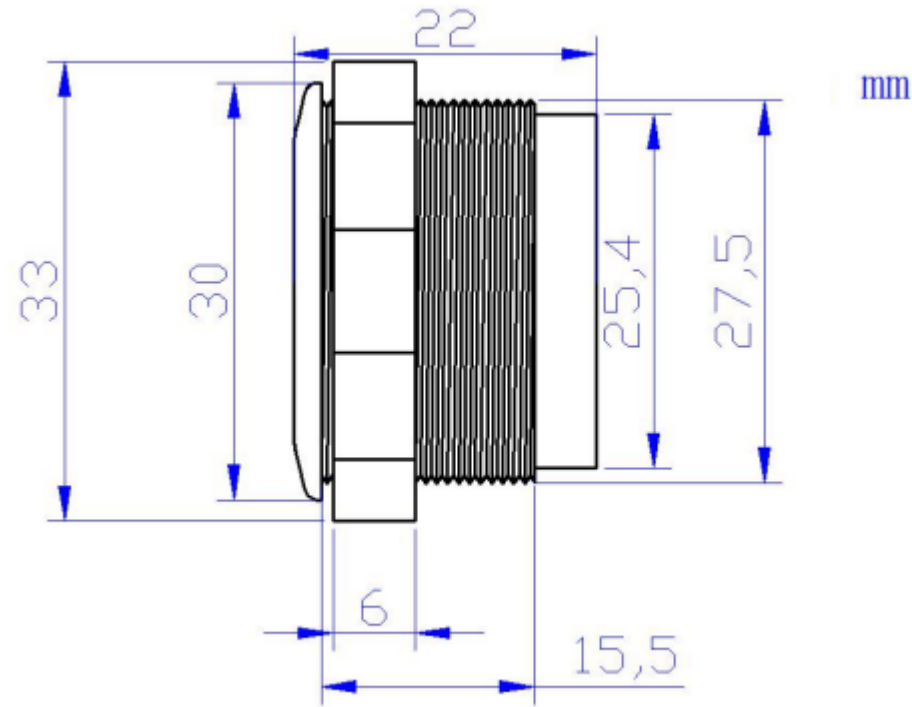
Board Overview



Num	Label	Description
1	Output	Sensor Singal Output
2	VCC	Positive
3	GND	Negative

Introduction
Specification
Board Overview
Dimensional Drawing
Tutorial
FAQ
More Documents

Dimensional Drawing



Tutorial

Requirements

- **Hardware**
 - DFRduino UNO R3 (<https://www.dfrobot.com/product-838.html>) (or similar) x 1
 - Digital IR Proximity Sensor(0-200cm) x1
- **Software**

- [Arduino IDE \(https://www.arduino.cc/en/Main/Software\)](https://www.arduino.cc/en/Main/Software)

Introduction

Specification

Board Overview

Dimensional Drawing

Tutorial

FAQ

More Documents



Connection Diagram

Introduction

Specification

Board Overview

Dimensional Drawing

Tutorial

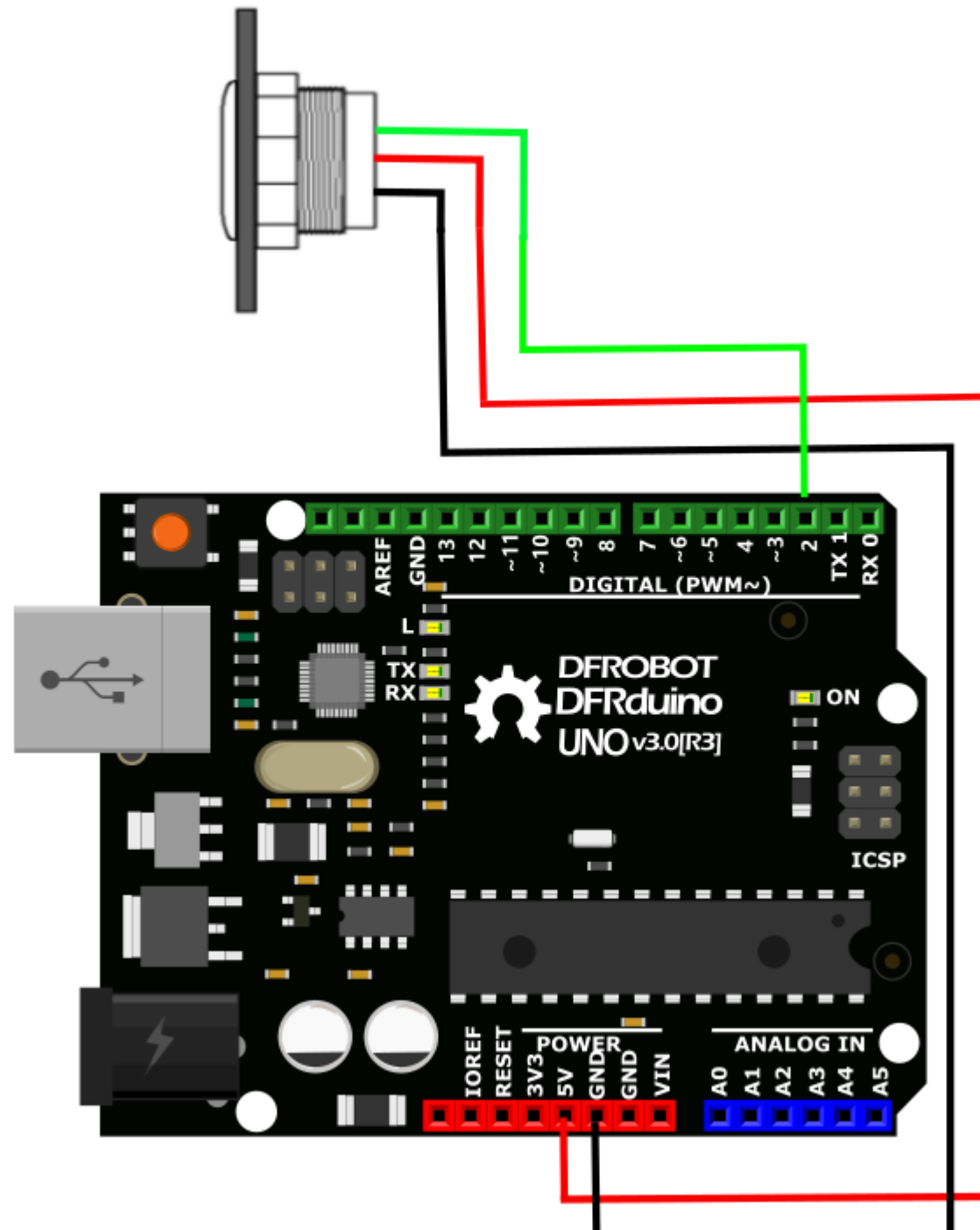
FAQ

More Documents



[Introduction](#)
[Specification](#)
[Board Overview](#)
[Dimensional Drawing](#)
[Tutorial](#)
[FAQ](#)
[More Documents](#)

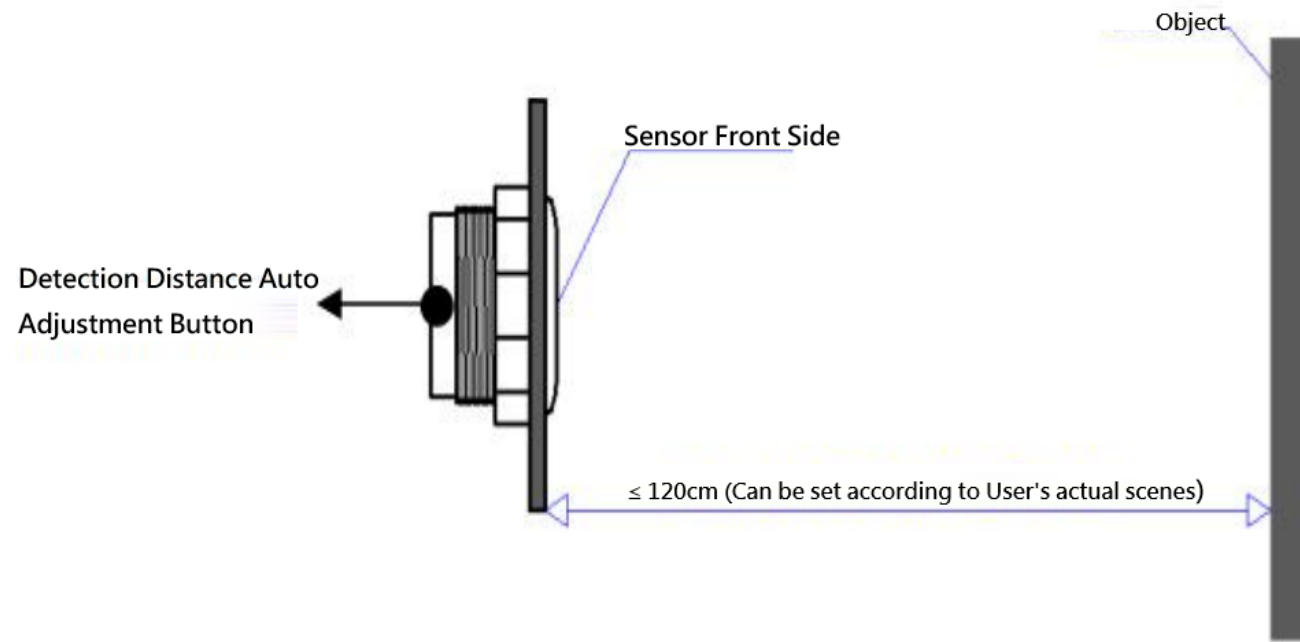
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Sensor Detection Distance Adjustment

The sensor will start to work when powered on. Place an object of size 80x60cm at the 80cm(or smaller) in front of the sensor, adjust its detection distance as shown below:

Press down the button, the red LED indicator begins to flash, then it enters auto detection distance adjustment mode.

[Introduction](#)[Specification](#)[Board Overview](#)[Dimensional Drawing](#)[Tutorial](#)[FAQ](#)[More Documents](#)

>

Sample Code

Introduction
Specification
Board Overview
Dimensional Drawing
Tutorial
FAQ
More Documents

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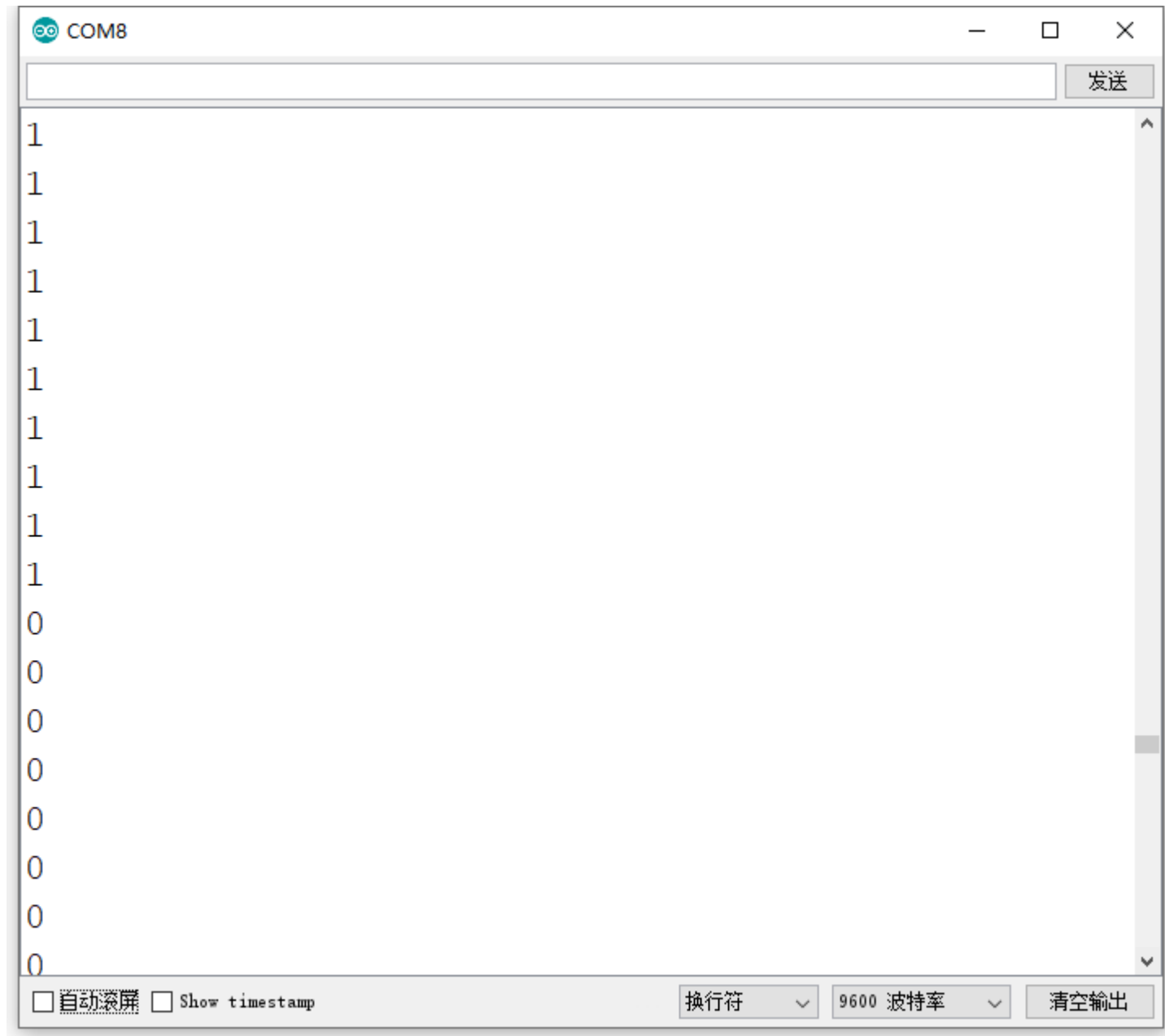
```
/*!
 * @File   infraredApproachSensor.ino
 * @brief  Detect the status of IO4 and print it in serial port
 * @copyright Copyright (c) 2010 DFRobot Co.Ltd (http://www.dfrobot.com)
 * @licence The MIT License (MIT)
 * @author [liunian](nian.liu@dfrobot.com)
 * @version V1.0
 * @date   2020-08-20
 */
int OUT = 4;
int i = 0;
void setup()
{
    Serial.begin(9600);
    pinMode(OUT, INPUT);
}
void loop()
{
    i = digitalRead (OUT);
    Serial.println(i);
    delay(5);
}
```

Expected Results

Read the status of IO4. When the sensor detected an object, serial print 1, otherwise, print 0.

Introduction
Specification
Board Overview
Dimensional Drawing
Tutorial
FAQ
More Documents

>



Introduction
Specification
Board Overview
Dimensional Drawing
Tutorial
FAQ
More Documents

FAQ

For any questions, advice or cool ideas to share, please visit the **DFRobot Forum** (<https://www.dfrobot.com/forum/>).

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 Get **Digital IR Proximity Sensor(0-200cm)** (<https://www.dfrobot.com/product-2130.html>) from DFRobot Store or **DFRobot Distributor**. (<https://www.dfrobot.com/distributor>)

Turn to the Top

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